

## What is claimed is:

5 1. A compound 8 to 50 nucleobases in length targeted to a nucleic acid molecule encoding phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$ , wherein said compound specifically hybridizes with said nucleic acid molecule encoding phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$  and inhibits  
10 the expression of phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$ .

2. The compound of claim 1 which is an antisense oligonucleotide.

3. The compound of claim 2 wherein the antisense  
15 oligonucleotide has a sequence comprising SEQ ID NO: 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 46, 48, 49, 50, 51, 52, 53, 54, 56, 57, 58, 60, 61, 62, 63, 64, 66, 67, 69, 70, 71, 72, 73, 74, 76, 77, 78, 79, 82, 83 or  
20 85.

4. The compound of claim 2 wherein the antisense oligonucleotide comprises at least one modified internucleoside linkage.

5. The compound of claim 4 wherein the modified  
25 internucleoside linkage is a phosphorothioate linkage.

6. The compound of claim 2 wherein the antisense oligonucleotide comprises at least one modified sugar moiety.

7. The compound of claim 6 wherein the modified sugar moiety is a 2'-O-methoxyethyl sugar moiety.

8. The compound of claim 2 wherein the antisense  
30 oligonucleotide comprises at least one modified nucleobase.

9. The compound of claim 8 wherein the modified nucleobase is a 5-methylcytosine.

10. The compound of claim 2 wherein the antisense  
35 oligonucleotide is a chimeric oligonucleotide.

11. A compound 8 to 50 nucleobases in length which

1003354-120601

Sub A1

Sub C1

Sub C1

specifically hybridizes with at least an 8-nucleobase portion of an active site on a nucleic acid molecule encoding phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$ .

12. A composition comprising the compound of claim 1 and a pharmaceutically acceptable carrier or diluent.

13. The composition of claim 12 further comprising a colloidal dispersion system.

14. The composition of claim 12 wherein the compound is an antisense oligonucleotide.

15. A method of inhibiting the expression of phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$  in cells or tissues comprising contacting said cells or tissues with the compound of claim 1 so that expression of phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$  is inhibited.

16. A method of treating an animal having a disease or condition associated with phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$  comprising administering to said animal a therapeutically or prophylactically effective amount of the compound of claim 1 so that expression of phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$  is inhibited.

17. The method of claim 16 wherein the disease or condition is a hyperproliferative disorder.

18. The method of claim 16 wherein the disease or condition is an inflammatory disorder.

19. The compound of claim 1 targeted to a nucleic acid molecule encoding phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$ , wherein said compound specifically hybridizes with and differentially inhibits the expression of one of the variants of phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$  relative to the remaining variants of phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$ .

20. The compound of claim 19 targeted to a nucleic acid molecule encoding phosphatidylinositol-4-phosphate 5-kinase, I $\alpha$ , wherein said compound hybridizes with and specifically inhibits the expression of a variant

phosphatidylinositol-4-phosphate 5-kinase,  $I\alpha$ , wherein said  
variant is selected from the group consisting of PIP5KI $\alpha$ 1,  
PIP5KI $\alpha$ 2 and PIP5KI $\alpha$ 3.

Sup  
C1

10003354-120601